

Appln No. 10/678,420
Amdt date November 2, 2005
Reply to Office action of August 18, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An anti-surge device comprising:
an axial flow compressor;
means for introducing water droplets into an inlet duct to the compressor comprising a plurality of nozzles, a pump supplying high pressure water to the nozzles, and conduit connecting the pump and nozzles; and
elastic means for temporarily supplying sufficient water, in the event of shutdown of pumped water supply, to the nozzles with gradually decreasing flow for a sufficient time to avoid surge.
2. (Original) An anti-surge device according to claim 1 wherein the elastic means comprises an accumulator connected to the conduit.
3. (Withdrawn) An anti-surge device according to claim 1 wherein the elastic means comprises an elastically flexible portion of the conduit.
4. (Withdrawn) An anti-surge device according to claim 1 wherein the elastic means comprises a spring loaded reservoir of water.
5. (Original) An anti-surge device according to claim 1 wherein the elastic means supplies water for at least one second after shutdown of water supply.
6. (Withdrawn) An anti-surge device according to claim 1 wherein the elastic means comprises a plurality of accumulators.

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7. (Withdrawn) An anti-surge device according to claim 1 wherein the elastic means comprises an accumulator connected to each of a plurality of nozzle manifolds for introducing water droplets into inlet air to the compressor.

8. (Currently Amended) An anti-surge device comprising:
an axial flow compressor;
a fog generator for introducing water droplets into an inlet duct to the compressor; [[and]]
a reservoir containing sufficient water to gradually decrease flow, in the event of shutdown of a primary water supply to the fog generator, for a sufficient time to avoid surge;
and
means for supplying water from the reservoir to the fog generator in the event of shutdown of primary water supply.

9. (Original) An anti-surge device according to claim 8 wherein the reservoir contains sufficient water to supply water to the fog generator for at least one second after shutdown of water supply.

10. (Original) An anti-surge device according to claim 8 wherein the reservoir comprises an accumulator.

11. (Withdrawn) An anti-surge device according to claim 10 wherein the reservoir comprises an elastically flexible conduit connected to the fog generator.

12. (Original) An anti-surge device according to claim 10 wherein the reservoir is activated by gas pressure to supply water to the fog generator.

13. (Previously Withdrawn) An anti-surge device according to claim 8 wherein there are a plurality of fog generating manifolds and a reservoir is connected to each of the manifolds.

14. (Previously Withdrawn) An anti-surge device according to claim 13 wherein each of the reservoirs comprises an accumulator.

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15. (Withdrawn) An anti-surge device according to claim 8 wherein the reservoir comprises a plurality of accumulators.

16. (Withdrawn) An anti-surge device comprising:
an axial flow compressor;
means for introducing water droplets into an inlet duct to the compressor comprising a plurality of nozzle manifolds, and a pump supplying high pressure water to the manifolds; and
an elastic water supply connected to each manifold.

17. (Withdrawn) An anti-surge device according to claim 16 wherein each of the water supplies comprises an accumulator.

18. (Withdrawn) An anti-surge device according to claim 16 wherein the water supplies collectively contain sufficient water, in the event of shutdown of water supply, to gradually decrease flow of water for a sufficient time to avoid surge.

19. (Currently Amended) A method for preventing surge in an axial flow compressor comprising:
introducing water droplets to an air inlet duct to the compressor through a fog generator;
storing water under pressure in a reservoir connected to the fog generator; and
releasing water from the reservoir through the fog generator for a sufficient time to prevent surge of the ~~turbine~~ compressor in the event other water supply to the nozzles is interrupted.

20. (Previously Amended) A method according to claim 19 wherein the water is released gradually over an interval of at least about one second.

21. (Withdrawn) A method according to claim 19 wherein the reservoir comprises a plurality of accumulators.

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22. (Withdrawn) A method according to claim 21 wherein each accumulator has a different charging pressure.

23. (Withdrawn) A method according to claim 21 wherein water droplets are introduced via a plurality of nozzle manifolds and the reservoir comprises a plurality of accumulators, each accumulator being connected to a respective manifold.

24. (Currently Amended) A method for preventing surge in an axial flow compressor comprising:

introducing water droplets to an air inlet duct to the compressor through a fog generator connected to a primary water supply;

storing water under pressure in a reservoir connected to the fog generator; and

releasing water from the reservoir through the fog generator gradually over an interval of at least about one second in the event of interruption of the primary water supply.

25. (Withdrawn) A method according to claim 24 wherein the reservoir comprises a plurality of accumulators.

26. (Withdrawn) A method according to claim 25 wherein each accumulator has a different charging pressure.

27. (Withdrawn) A method according to claim 24 wherein water droplets are introduced via a plurality of nozzle manifolds and the reservoir comprises a plurality of accumulators, each accumulator being connected to a respective manifold.

28. (Currently Amended) A method for preventing surge in a gas turbine system including an axial flow compressor comprising:

introducing water droplets to the compressor;

storing water under pressure in a reservoir;

releasing water from the reservoir in the form of droplets into the compressor in the event other water supply to the nozzles is interrupted; and

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gradually reducing flow of water droplets from the reservoir into the compressor.

29. (Withdrawn) A method according to claim 28 wherein the reservoir comprises a plurality of accumulators.

30. (Withdrawn) A method according to claim 29 wherein each accumulator has a different charging pressure.

31. (Withdrawn) A method according to claim 28 wherein water droplets are introduced via a plurality of nozzle manifolds and the reservoir comprises a plurality of accumulators, each accumulator being connected to a respective manifold.

32. (Currently Amended) A method for preventing surge in a gas turbine system including an axial flow compressor comprising:

introducing water droplets to the compressor;

storing water under pressure in a reservoir; and

gradually releasing sufficient water from the reservoir in the form of droplets to the compressor to prevent surge of the turbine in the event other water supply to the nozzles is interrupted.

33. (Withdrawn) A method according to claim 32 wherein the reservoir comprises a plurality of accumulators.

34. (Withdrawn) A method according to claim 33 wherein each accumulator has a different charging pressure.

35. (Withdrawn) A method according to claim 32 wherein water droplets are introduced via a plurality of nozzle manifolds and the reservoir comprises a plurality of accumulators, each accumulator being connected to a respective manifold.